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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,232	09/26/2003	Joon-Young Park	P56904	6815

7590 06/28/2005
Robert E. Bushnell
Suite 300
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EXAMINER

RIELLEY, ELIZABETH A

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/670,232

Applicant(s)

PARK ET AL.

Examiner

Elizabeth A. Rielley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/2005&9/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figures 1a and 1b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 70 in figure 2a. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top

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margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: there are several errors in the specification, a few of which are as follows: on page 10 line 8, the phrases "in various s" and "the respective s" are not clear. No reference to what "s" identifies has been made. On page 12 line 16, reference number 31 is not found in the figures.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-5 and 9-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Humbs et al (US

6774392).

7. In regard to claim 1, Humbs et al ('392) disclose an organic light emitting diode (abstract; figures 3a and 3b), comprising: a substrate (1; column 4 line 22 to column 5 line 35) having a first electrode layer formed thereon (2); an insulator layer formed on the substrate (3) and forming a channel in a predetermined pattern (40); an organic polymer layer formed based on the channel (6) and having at least an emission layer (column 5 lines 9-11); a barrier (8) formed at either side of the insulator layer (4) of at least one end of the channel (40; see figure 3a) for preventing ink for the organic polymer layer from running out from both ends of the channel; and a second electrode layer (10; figure 4b) formed on the polymer organic layer.

8. In regard to claim 2, Humbs et al ('392) teach the barrier (8) extends lengthwise in a direction perpendicular to the channel (40; see figure 3b).

9. In regard to claim 3, Humbs et al ('392) teach the barrier (8) extends lengthwise in a direction inclined with respect to the channel (see figure 3a).

10. In regard to claim 4, Humbs et al ('392) teach the barrier (8) is spaced by a predetermined distance from a lateral surface of a neighboring insulator layer (4; see figure 3a).

11. In regard to claim 5, Humbs et al ('392) teach the barrier (8) extends to a lateral surface of a neighboring insulator layer (3; see figure 3b).

12. In regard to claim 9, Humbs et al ('392) teach a height of the barrier is no less than 50 nm and no greater than the height of the insulator layer (column 5 lines 14-17; column 4 line 54-59).

13. In regard to claim 10, Humbs et al ('392) teach at least one blocking member (8) for interrupting

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outflow of the polymer organic layer is provided substantially at the center of both ends of each channel (see figure 3a).

14. In regard to claim 11, Humbs et al ('392) teach th shape of the blocking member (8) is one of a cuboid, a cylinder, a pyramid, a wedge and a V-shape (see figure 3a).

15. In regard to claim 12, Humbs et al ('392) teach the blocking member (8) includes at least two elements in a wedge shape, centers of the wedge being opposite to each other (see figure 3a).

16. In regard to claim 13, Humbs et al ('392) teach the width of the blocking member (W) is no greater than a width of the channel (a; see figure 3a).

17. In regard to claim 14, Humbs et al ('392) teach a height of the barrier is no less than 50 nm and no greater than the height of the insulator layer (column 5 lines 14-17; column 4 line 54-59).

18. In regard to claim 15, Humbs et al ('392) teach the polymer organic layer is formed by coating a liquid polymer organic material along the channel by inkjet printing (column 1 lines 28-30).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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20. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Humbs et al (US 6774392) in view of Tatsufumi (JP 2001-230073).

21. In regard to claim 6, Humbs et al ('392) teach all the limitations set forth as described above, including the limitations wherein the barrier comprises: at least one first barrier (8) for preventing the polymer ink from running out from both ends of the channel. Humbs et al ('392) is silent regarding the limitations of a second barrier for preventing the polymer ink from running in from neighboring channels. Tatsufumi et al ('073) teach a barrier for preventing the polymer ink from running in from neighboring channels (15; figure 3; abstract) in order to increase the reliability of the display. Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the display of Humbs et al ('392) with the barriers of Tatsufumi et al ('073). Motivation to combine is to increase the reliability of the display.

22. In regard to claim 7, Humbs et al ('392) teach all the limitations set forth as described above except the first and second barriers incline lengthwise with respect to the channel, the first and second barriers extending in opposite directions. Tatsufumi et al ('073) teach the first and second barriers incline lengthwise with respect to the channel, the first and second barriers extending in opposite directions (see figures 23-28) in order to increase the reliability of the display. Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the display of Humbs et al ('392) with the barriers of Tatsufumi et al ('073). Motivation to combine is to increase the reliability of the display.

23. In regard to claim 8, Humbs et al ('392) teach all the limitations set forth as described above except the first barrier extends lengthwise toward a center of the channel, and the second barrier extends outward from the channel. Tatsufumi et al ('073) teach the first barrier extends lengthwise toward a center of the channel, and the second barrier extends outward from the channel (see figures 24 to 28) in order to

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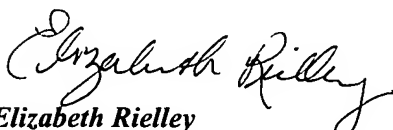
increase the reliability of the display. Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the display of Humbs et al ('392) with the barriers of Tatsufumi et al ('073). Motivation to combine is to increase the reliability of the display.

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Rielley whose telephone number is 571-272-2117. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Elizabeth Rielley

Examiner
Art Unit 2879

Msx 6/26/05
Mariceli Santiago
AU 2879